

REMARKS

Claims 1–15 are pending in this application. By this Amendment, claims 1–3, 5–7 and 15 are amended. The amendments to claims 2, 3, 5–7 and 15 correct minor informalities. Support for the amendment to claim 1 can be found, for example, at least in paragraph [0024] and Fig. 1. No new matter is added. Applicants respectfully request reconsideration and prompt allowance in view of at least the following remarks.

The Office Action rejects claims 1, 2 and 4–15 under 35 U.S.C. §103(a) over U.S. Patent No. 6,935,165 (Bashir) in view of U.S. Patent No. 4,896,098 (Haritonidis). Applicants respectfully traverse the rejection.

Bashir fails to disclose every recitation in claim 1. Instead, Bashir merely discloses a monitoring apparatus with a substrate 102 defining a microscopic chamber 104 with cantilevers 106 extending from the substrate 102 into the chamber 104 (Bashir at col. 24, lines 44–47). Bashir discloses that a detector 108 is operatively connected to the microcantilevers 106 for sensing a state of deformation (Bashir at col. 24, lines 47–49). Bashir discloses the detector 108 can be a piezoelectric element, an optical assembly or a resonant circuit with a frequency detector (Bashir at col. 25, lines 1–15). Bashir discloses that each microcantilever is provided with a layer 110 of an environmentally sensitive hydrogel polymer, which the Office Action alleges discloses a "functional membrane" (Bashir at col. 24, lines 49–51 and Office Action at page 2). However, Bashir fails to disclose that the layer 110 is connected to two of the microcantilevers 106.

Instead, Bashir discloses that the layer 110 is on the upper surface of each cantilever individually. Therefore, Bashir fails to disclose "a functional membrane that is connected to both arms," as recited in claim 1. Additionally, Bashir fails to disclose "an actuator for providing tension to the functional membrane," as recited in claim 1. Bashir fails to disclose any structure that may be argued to disclose "an actuator. The Office Action concedes that

Bashir fails to disclose "a pair of arms" of that are connected. Therefore, Bashir fails to disclose "a pair of arms connected via elastic hinges to the support portion," as recited in claim 1.

However, the Office Action alleges that Haritonidis overcomes the deficiency of Bashir. Haritonidis discloses a microbridge shear-sensitive element. The element includes a thin film plate 14 that is suspended above a substrate 25 by four support arms 16 (Haritonidis at col. 6, lines 12–17). Each of the support arms 16 are attached to the substrate 25 by four respective bases 19 (Haritonidis at col. 6, lines 17–19). Thus, although Haritonidis may be argued to disclose a pair of support arms, Haritonidis fails to disclose "a pair of support arms connected via elastic hinges to the support portion," as recited in claim 1. Additionally, Haritonidis fails to disclose that a "detection means including a force detection sensor [] is connected to one of the arms" and "an actuator for providing tension . . . being connected to the other of the arms," as recited in claim 1. Thus, Haritonidis fails to cure the deficiencies of Bashir. As such, claim 1 is patentable over Bashir in view of Haritonidis.

As claim 1 is patentable over the applied references, dependent claims 2 and 4–15 are also patentable, based on at least their dependency of claim 1, as well as for the additional features the claims recite. Therefore, Applicants respectfully request withdrawal of the rejection.

The Office Action rejects claim 3 under 35 U.S.C. §103(a) over Bashir in view of Haritonidis in further view of Lang et al., "An artificial nose based on a micromechanical cantilever array." Applicants respectfully traverse the rejection.

This rejection is premised upon the presumption that Bashir in view of Haritonidis disclose all of the features of claim 1. Because, as discussed above, Bashir in view of Haritonidis do not disclose all of the features of claim 1, the rejection is improper. Applicants respectfully request withdrawal of the rejection.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Petition for Extension of Time
Request for Continued Examination

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